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INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

<p>(51) International Patent Classification 4 : <b>A63B 69/36</b></p>	<p><b>A1</b></p>	<p>(11) International Publication Number: <b>WO 89/ 00065</b> (43) International Publication Date: 12 January 1989 (12.01.89)</p>
<p>(21) International Application Number: PCT/AU88/00238 (22) International Filing Date: 1 July 1988 (01.07.88) (31) Priority Application Number: PI 2905 (32) Priority Date: 3 July 1987 (03.07.87) (33) Priority Country: AU  (71)(72) Applicants and Inventors: RUTHERFORD, William [AU/AU]; 33 Albert Street, Valentine, NSW 2280 (AU). RUTHERFORD, Noel, Edward [AU/AU]; 88 Violet Town Road, Belmont North, NSW 2280 (AU).  (74) Agent: SIELY, James, G.; Arthur S. Cave &amp; Co., Level 10, 10 Barrack Street, Sydney, NSW 2000 (AU).</p>		<p>(81) Designated States: GB, JP, US.  Published With international search report.</p>
<p>(54) Title: A GOLF PRACTICE DRIVING AID</p> <div data-bbox="410 1163 1279 1759" data-label="Image"></div> <p>(57) Abstract</p> <p>A golf practice aid comprising a rotary member (1) supported on a spindle (2), the rotary member (1) having an arm (3) with a golf ball (4) fixed to one end thereof and a counter weight (5) fixed to the other end thereof, a boss (6) positioned between the arm (3) and the counter weight (5), a cam face (7) on the boss (6) co-operating with the cam face (8) on the spindle (2) to normally position the ball in a pre-selected position and return the golf ball (4) to that position when the rotary member ceases to rotate. A revolution counter (9) may be provided in a recess (10). The golf practice aid may be used in conjunction with a standing mat (33) marked out in squares (34) to assist a player to correctly address the golf ball (4).</p>		

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A GOLF PRACTICE DRIVING AID

This invention relates to an improved golf practice driving aid.

5        Golfers like to practice their ability to accurately hit and drive a ball over a pre-selected distance. In order to do this the practice has to take place on a golf course which is not always convenient because other players are usually on the course or on a driving range which is an area usually set  
10       aside in a golf course or in an area provided outside a golf course where golf players can practice.

      Because a person practicing his driving ability has to strike the ball with the full power of a stroke in order to accurately assess and improve his ability, considerable area is  
15       necessary to enable this to be achieved. This is not always convenient or possible and the present invention provides a Golf Practice Aid which enables a golfer to practice and improve his driving ability in a small area e.g., in the back yard of his own home or in another usually confined space.

20       With the forgoing in mind the invention broadly comprises a Golf Practice Aid comprising a rotary member rotatably supported on the spindle, the rotary member including an arm having a golf ball fixed to one end thereof and a counter weight fixed to the other end thereof, a boss positioned  
25       between said arm and said counter weight and means on said boss co-operating on means on said spindle to normally position the ball in a pre-selected position and return the ball to that position when the rotary member ceases to rotate.

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The invention also comprises a Golf Practice Aid comprising a rotary member rotatably supported on a spindle fixed in a mounting block, said mounting block having a cam face inclined at an angle to a support for said block and a spindle extending from said cam face, said rotary member including an arm having a golf ball fixed to one end and a counter weight fixed to the other end, a boss positioned between the counter weight and said arm with a bore extending through said boss, said boss having a cam face complementary with an engagable cam face on said mounting block and means to secure said rotary member on said spindle.

Preferred embodiments of the invention will now be described with reference to the accompanying drawings in which:

Figure 1 is a side view of the Golf Practice Aid according to one embodiment of the invention;

Figure 2 is a plan view of Figure 1;

Figure 3 is a sectional view on line A-A of Figure 1.

Referring now to the drawings.-

Figure 4 is a perspective view of a Golf Practice Aid according to a further embodiment of the invention.

Figure 5 is an exploded view of the Golf Practice Aid shown in Figure 4.

Figure 5 is an perspective view of the Golf Practice aid illustrated in Figure 4 and showing an attachment.

The aid includes a rotary member designated generally by the reference 1 rotatably supported on a spindle 2. The rotary member includes an arm 3 having a golf ball 4 fixed to one end thereof.

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A counter weight 5 to counter balance the weight the arm 3 and the golf ball 4 is fixed to the other end of the arm 3 and a boss 6 is positioned between the arm and the counter weight. The boss has a cam face 7 which co-operates with a cam face 8 on the spindle 2 to normally position the ball in a pre-selected position and return the ball to that position when the rotary member ceases to rotate. A rev counter 9 is positioned in a recess 10 to register the number of revolutions of the rotary member when the golf ball 2 is struck with a golf club.

In the embodiment illustrated the spindle 2 is formed with a spiked end and it is provided with an enlarged head 11 to facilitate the driving of the spike into the ground. It will be appreciated however, that the spindle may be fixed to an anchor plate (not shown) whereby the aid is supported on another substrate.

Referring now to figures 4 to 6. The Golf Practice Aid comprises a rotary member designated generally by the reference 12 rotatably supported on a spindle 13 fixed on the mounting block 14. The mounting block has a cam face 15 inclined at an angle (preferably 45°) to a support 16 (figure 6) and the spindle 13 extends from the cam face in a plane normal thereto.

The rotary member includes an arm 17 cranked to form two limbs 18 and 19. A golf ball 20 is fixed to the arm 18 and a counter weight 21 is fixed to the free end of arm 19 with a boss 22 positioned between the arm 19 and the counter weight 21. The boss 22 is provided with a bore 23 with a seat 24 positioned within the ball. A ball race 25 is located in the

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bore and engages the seat 24. It is retained in position by a circlip 26.

The rotary member is retained on the spindle 13 with two groups of washers 27 and 28 in a cap nut 29.

5       The support 16 is secured to a substrate by any convenient means such as pins 30 or suction caps 31 as illustrated in figure 4.

10       A revolution counter 32 is positioned adjacent to block 14 and when activated is adapted to count the number of revolutions of the rotary member 1 after the ball 20 is struck with a golf club.

15       In the modification illustrated in figure 6 a standing mat 33 is provided for attachment to the support 16. The mat is marked out in square 34 to assist a player in positioning himself to correctly address the ball.

20       In use the player positions himself on the mat 31 and strikes the ball 20 with a golf club. This causes the rotary member to rotate and the number of revolutions counted then indicates the force with which the ball has been struck. When the rotary member ceases to rotate it returns by gravity to its normal position and is automatically available for the next practice shot.

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The claims defining the invention are as follows:

1. A Golf Practice Aid comprising a rotary member rotatably supported on the spindle, the rotary member including an arm having a golf ball fixed to one end thereof and a counter weight fixed to the other end thereof, a boss positioned between said arm and said counter weight and means on said boss co-operating on means on said spindle to normally position the ball in a pre-selected position and return the ball to that position when the rotary member ceases to rotate.
2. A Golf Practice Aid as claimed in Claim 1 wherein said boss has a cam face engaging with a corresponding cam face on said spindle, said cam face co-operating to normally position the ball in a pre-selected position and return the ball to that position when the rotary member ceases to rotate.
3. A Golf Practice Aid as claimed in Claim 1 wherein the rotary member has a revolution counter associated therewith to measure the number of times the rotary member rotates.
4. A Golf Practice Aid as claimed in any of Claims 1 to 3 wherein one end of the spindle is formed in a spike and the other end of said spindle is provided with a cap.
5. A Golf Practice Aid comprising a rotary member rotatably supported on a spindle fixed in a mounting block, said mounting block having a cam face inclined at an angle to a support for support said block and a spindle extending from said cam face, said rotary member including an arm having a golf ball fixed to one end and a counter weight fixed to the other end, a boss positioned between the counter weight and said arm with a bore extending through said boss, said boss having a cam face

6.  
complimentary with an engagable with a cam face on said mounting block and means to secure said rotary member on said spindle.

6. A Golf Practice Aid as claimed in Claim 5 wherein said cam face is inclined at an angle of 45° to said support.

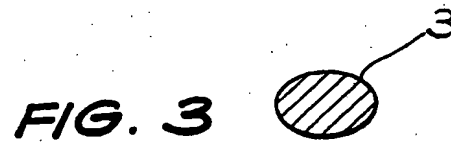
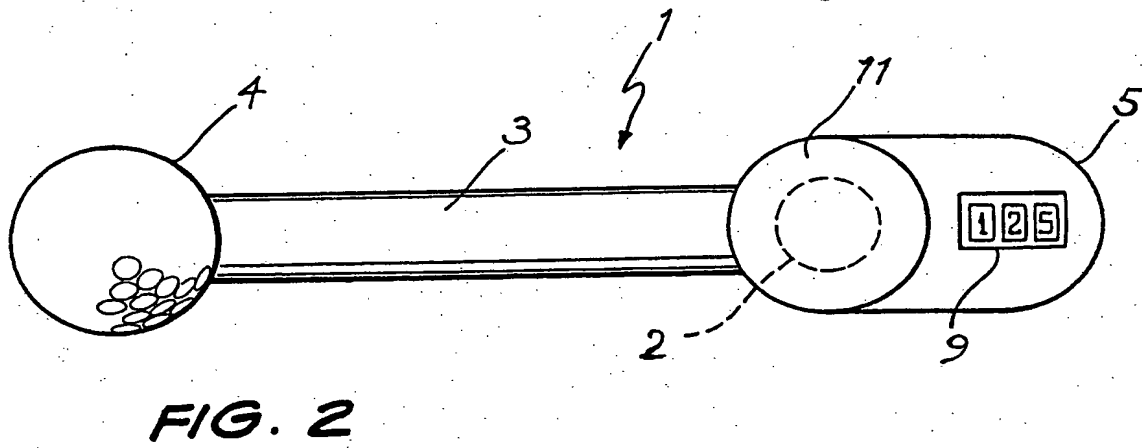
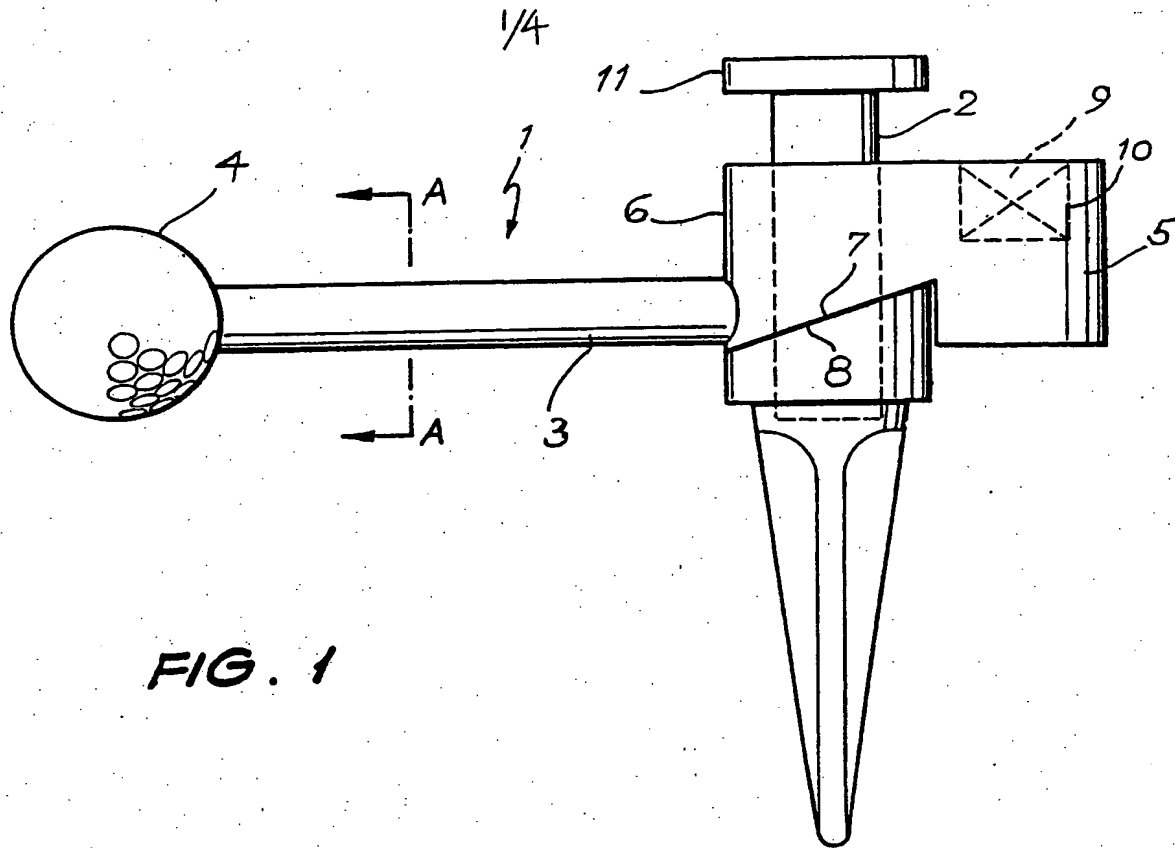
7. A Golf Practice Aid as claimed in Claim 5 wherein a ball race bearing is provided in said bore to support said rotary member on said spindle.

8. A Golf Practice Aid as claimed in Claims 1 or 5 wherein the support includes a mat marked in squares to correctly position the feet of a player on the mat in relation to the ball.

9. A Golf Practice Aid as claimed in any one of Claims 5 to 8 including a revolution counter associated with said rotary member.

10. A Golf Practice Aid substantially as hereinbefore described with reference to figures 1 to 3 or 4 to 6 of the accompanying drawings.





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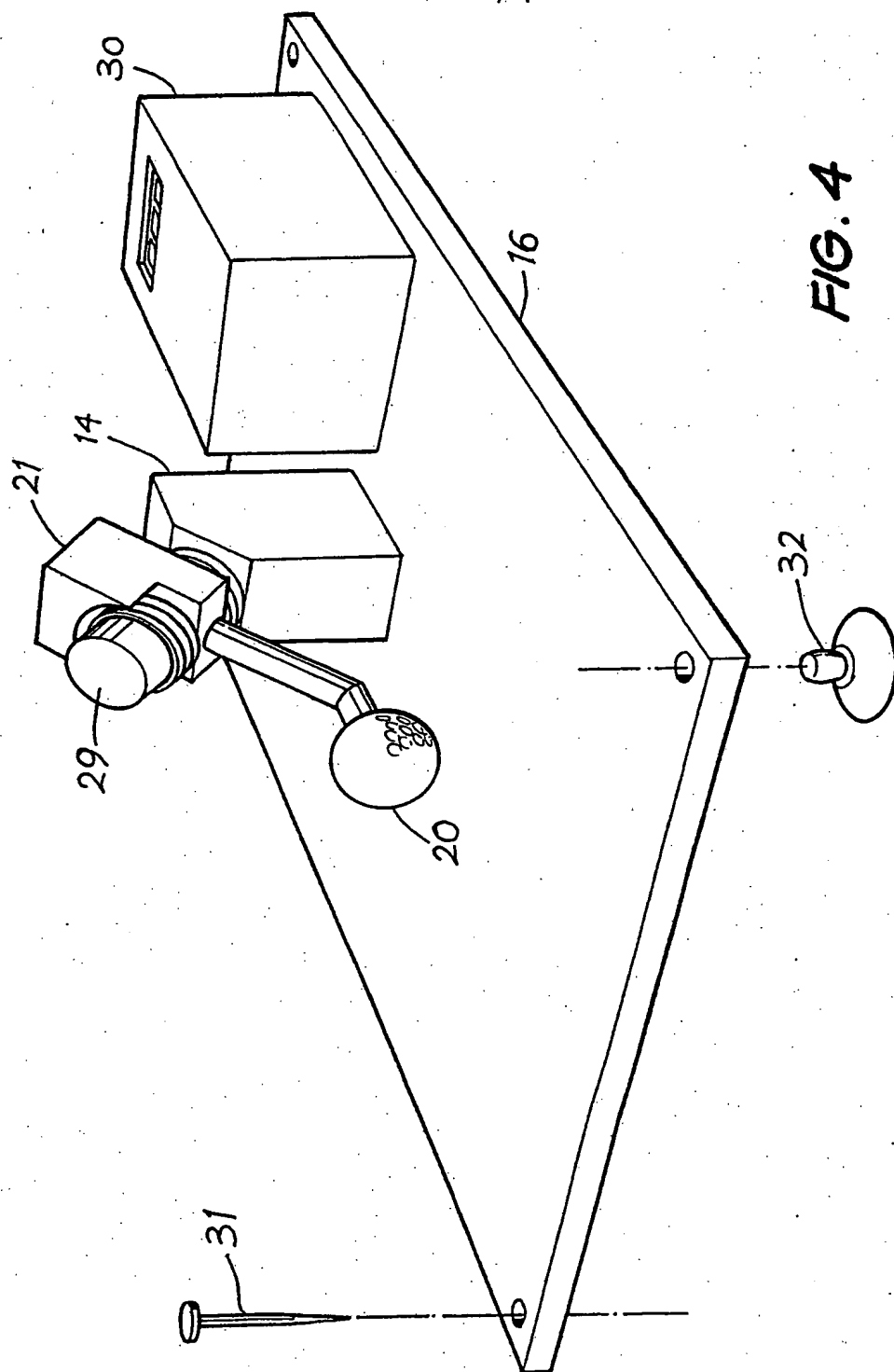


FIG. 4

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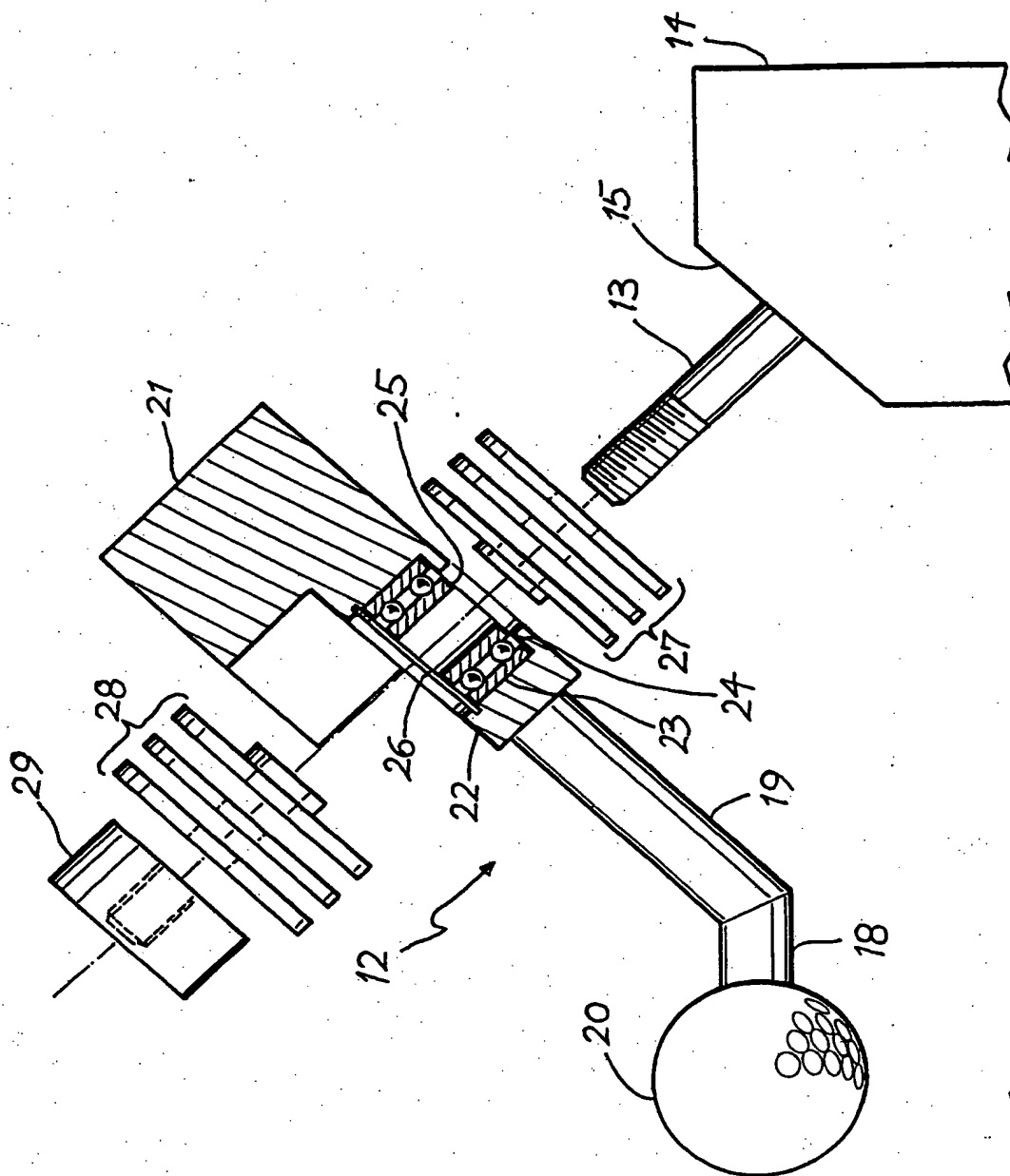


FIG. 5

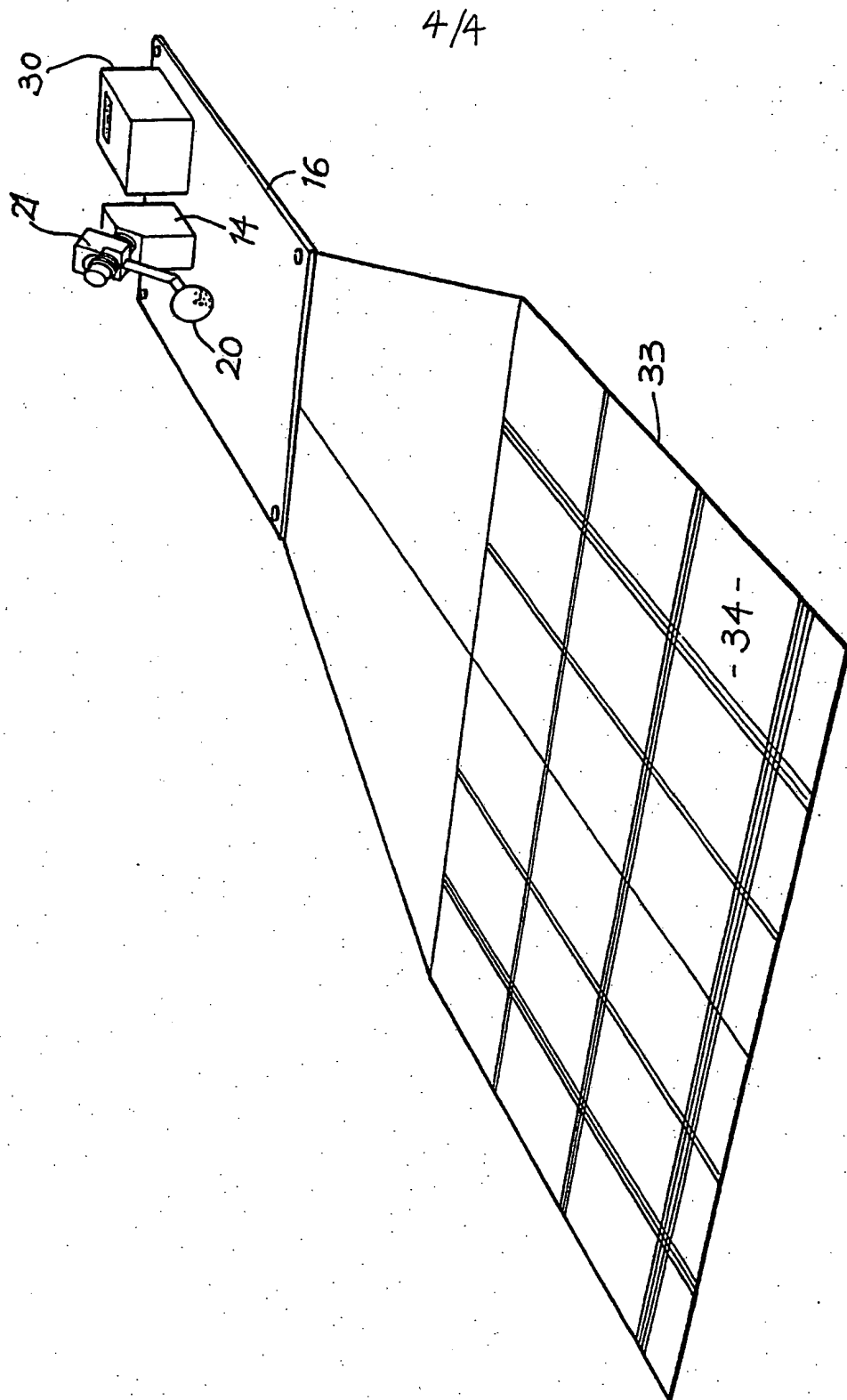


FIG. 6

# INTERNATIONAL SEARCH REPORT

International Application No. PCT/AU 88/00238

<b>I. CLASSIFICATION OF SUBJECT MATTER</b> : 1. Special classification symbols apply. Indicate this. According to International Patent Classification (IPC) or to both National Classification and IPC Int. Cl. <sup>4</sup> A63B 69/36								
<b>II. FIELDS SEARCHED</b> Minimum Documentation Searched : <table border="1"> <tr> <th>Classification System</th> <th>Classification Symbols</th> </tr> <tr> <td>IPC</td> <td>A63B 69/36</td> </tr> <tr> <td colspan="2">Documentation Searched other than Minimum Documentation to the Extent that such Documents are Included in the Fields Searched :</td> </tr> </table>			Classification System	Classification Symbols	IPC	A63B 69/36	Documentation Searched other than Minimum Documentation to the Extent that such Documents are Included in the Fields Searched :	
Classification System	Classification Symbols							
IPC	A63B 69/36							
Documentation Searched other than Minimum Documentation to the Extent that such Documents are Included in the Fields Searched :								
AU : A63B 67/10, 69/36								
<b>III. DOCUMENTS CONSIDERED TO BE RELEVANT</b> <sup>*</sup>								
Category <sup>*</sup>	Citation of Document, <sup>**</sup> with indication, where appropriate, of the relevant passages <sup>**</sup>	Relevant to Claim No. <sup>**</sup>						
X,Y	FR,A, 725556 (JOUET) 13 May 1932 (13.05.32)	(1-9)						
X,Y	GB,A, 1392339 (SALMONT) 30 April 1975 (30.04.75) See page 2 lines 21-24.	(1-3,5-9)						
X,Y	AU,B, 87899/75 (492564) (NEWTON) 30 June 1977 (30.06.77) See Fig 2.	(1-3,5-9)						
X,Y	FR,A, 706628 (JOUET) 27 June 1931 (27.06.31) See Fig 3.	(1,3,8,9)						
X,Y	GB,A, 1068731 (STANDON ASSOCIATES LIMITED) 10 May 1967 (10.05.67) See page 1 line 86 - page 2 line 3.	(1,3,8,9)						
X,Y	GB,A, 1287142 (STANDON ASSOCIATES LIMITED) 31 August 1972 (31.08.72) See page 1 lines 54-59.	(1,3,8,9)						
Y	US,A, 3421376 (LINDAHL) 14 January 1969 (14.01.69) See Fig 1; column 2 lines 21-28.	(1,3,8,9)						
Y	GB,A, 391329 (STAPLES) 27 April 1933 (27.04.33) See Fig 1.	(1,3,8,9)						
Y	US,A, 3647219 (RAVATT) 7 March 1972 (07.03.72) See Fig 1; column 1 lines 64-66.	(1,8)						
(continued)								
<sup>*</sup> Special categories of cited documents. <sup>**</sup> <sup>-A-</sup> document defining the general state of the art which is not considered to be of particular relevance <sup>-E-</sup> earlier document but published on or after the international filing date <sup>-L-</sup> document which may throw doubt on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified) <sup>-O-</sup> document referring to an oral disclosure, use, exhibition or other means <sup>-P-</sup> document published prior to the international filing date but later than the priority date claimed <sup>-T-</sup> later document published after the international filing date of priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention <sup>-X-</sup> document of particular relevance: the claimed invention cannot be considered novel or cannot be considered to involve an inventive step <sup>-Y-</sup> document of particular relevance: the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art. <sup>-A-</sup> document member of the same patent family								
<b>IV. CERTIFICATION</b> <table border="1"> <tr> <td>Date of the Actual Completion of the International Search 26 September 1988 (26.09.88)</td> <td>Date of Mailing of this International Search Report 21 OCTOBER 1988 (21.10.88)</td> </tr> <tr> <td>International Searching Authority Australian Patent Office</td> <td>Signature of Authorized Officer <i>W. J. Major</i> W. J. MAJOR</td> </tr> </table>			Date of the Actual Completion of the International Search 26 September 1988 (26.09.88)	Date of Mailing of this International Search Report 21 OCTOBER 1988 (21.10.88)	International Searching Authority Australian Patent Office	Signature of Authorized Officer <i>W. J. Major</i> W. J. MAJOR		
Date of the Actual Completion of the International Search 26 September 1988 (26.09.88)	Date of Mailing of this International Search Report 21 OCTOBER 1988 (21.10.88)							
International Searching Authority Australian Patent Office	Signature of Authorized Officer <i>W. J. Major</i> W. J. MAJOR							

FURTHER INFORMATION CONTINUED FROM THE SECOND SHEET		
Y	AU,A, 30454/71 (THANE) 4 January 1973 (04.01.73) See Fig 1; page 2 lines 16-22, 26-33.	(4)
Y	US,A,3643961 (SCHROEDER) 22 February 1972 (22.02.72) See Fig 2; column 3 lines 6-12.	(4)

**V. OBSERVATIONS WHERE CERTAIN CLAIMS WERE FOUND UNSEARCHABLE**

This international search report has not been established in respect of certain claims under Article 17(2) (a) for the following reasons:

1. ☐ Claim numbers ..... because they relate to subject matter not required to be searched by this Authority, namely:

2. ☐ Claim numbers ..... because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:

3. ☐ Claim numbers ..... because they are dependent claims and are not drafted in accordance with the second and third sentences of PCT Rule 6.4(a).

**VI. OBSERVATIONS WHERE UNITY OF INVENTION IS LACKING**

This International Searching Authority found multiple inventions in this international application as follows:

1. ☐ As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims of the international application.

2. ☐ As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims of the international application for which fees were paid, specifically claims:

3. ☐ No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claim numbers:

4. ☐ As all searchable claims could be searched without effect justifying an additional fee, the International Searching Authority did not invite payment of any additional fee.

**Remarks on Protest**

☐ The additional search fees were accompanied by applicant's protest.

☐ No protest accompanied the payment of additional search fees.

ANNEX TO THE INTERNATIONAL SEARCH REPORT ON  
INTERNATIONAL APPLICATION NO. PCT/AU 88/00238

This Annex lists the known "A" publication level patent family members relating to the patent documents cited in the above-mentioned international search report. The Australian Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

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Patent Document  
Cited in Search  
Report

Patent Family Members

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GB 1392339

AU 42206/72  
CA 983542  
IT 958305

CA 949991  
DE 2225831  
US 3794320

CA 957396  
FR 2142437

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AU 87899/75

US 4023809

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END OF ANNEX